NASA TECH BRIEF

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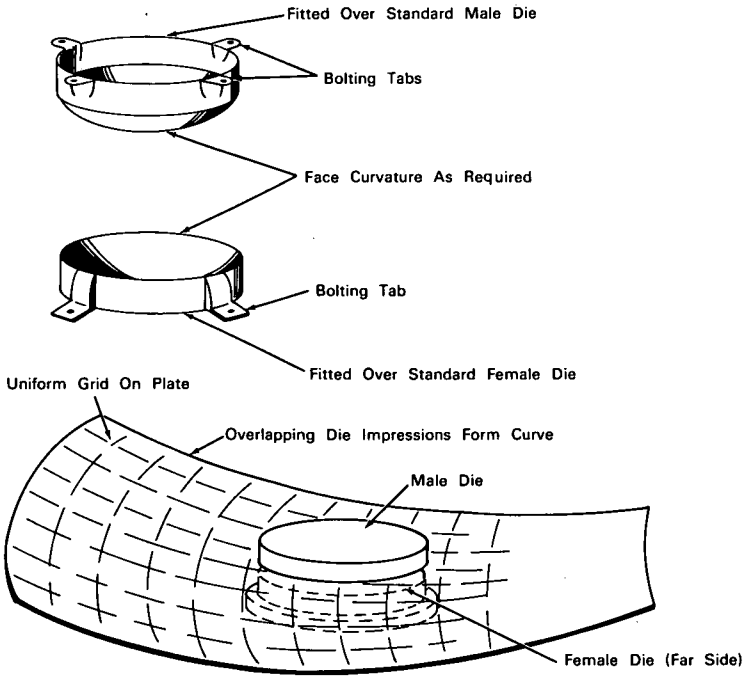
Fiberglass Dies Speed Forming of Large Metal Sheets



The problem: Forming of large metal sheets by the incremental dish forming method has been a slow, time-consuming process because of the appreciable time spent in tool changeover. Changing dies normally took more than two hours. With conventional dies, the use of rugs between die faces and workpiece is required to prevent galling.

The solution: Fiberglass tooling dies, both dishing and rolling blocks, fabricated to fit over and fasten to the die bases. These dies are lightweight, quickly replaced, and have nongalling surfaces.

How it's done: Lightweight fiberglass dies are bolted in place over the die tool bases. The part to be formed is then incrementally pressed between the male and female dies until it reaches the required contour.

Notes:

1. The relatively soft fiberglass faces permit elimination of the protective rugs.
2. Changing time for these tools does not exceed ten minutes, and makes the operator more inclined to use different tools to gain even a small improvement in forming.

(continued overleaf)

3. Inquiries concerning this innovation may be directed to:

Technology Utilization Officer
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Reference: B65-10210

Patent status: NASA encourages commercial use of this innovation. No patent action is contemplated.

Source: Robert L. Brown and Paul Schuerer (M-FS-214)